# Beach Combing Guide

**When thinking of the beach, things like summer vacation, relaxing and swimming all probably come to mind. While Delaware's beaches are great places for these activities, there is a lot more to this environment than just summer fun. The Delaware Bay, its beaches, and marsh land provide an abundance of food and habitat for all kinds of species. They are important ecosystems that are used as shelter, resting areas, and nurseries to both the animals that live here and the animals that migrate through this area every year.**

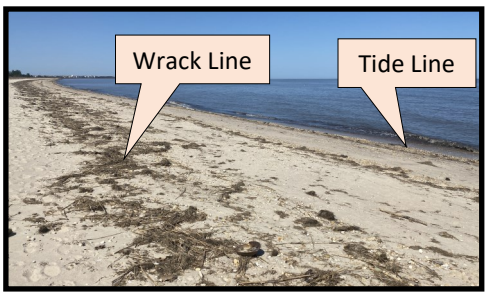
## The Delaware Bay

The Delaware Bay is an estuary (a body of water that is connected to both rivers and the ocean). The Delaware River flows into the bay, mixing freshwater and saltwater. This is called brackish water. Estuaries are often referred to as nurseries as many fish species will swim there from the ocean to spawn (these are known as anadromous fish). The surrounding marsh habitats are also great areas for animals of many aquatic and terrestrial species to nest, eat and find shelter.

## Horseshoe Crabs and Shorebirds

If you're here in the spring, you may witness the relationship between spawning horseshoe crabs and migrating shorebirds. The Delaware Bay is the world's largest spawning ground for horseshoe crabs. May—June each year horseshoe crabs lay millions of tiny eggs along Delaware Bay beaches. The Delaware Bay also acts as a migration stop for a variety of shorebird species to rest and refuel along their journey from South America to the Canadian Arctic. The timing of their migration aligns with the spawning horseshoe crabs. One female horseshoe crab can lay 80,000 to 100,000 eggs during the spawning period, and bay beaches are covered with these spawning horseshoe crabs. The tiny green eggs left on the beach are the perfect meal for these hungry shorebirds, who will feast for about two weeks before continuing their migration. This ecological connection is vital to the survival of the migrating shorebirds and is a phenomenon you are likely to encounter while beachcombing along a Delaware Bay beach in the spring.

## Beach Combing




Delaware Bay beaches can give us a firsthand look at some of the creatures that inhabit the bay. By inspecting the things that wash up on our shores, we can determine a lot about the bay's ecosystem. The first thing to consider when investigating our beaches is where to look. The tide line and the wrack line are the best areas to look for shells and other organisms. The tide line lies where the water meets the beach. The wrack line is higher up on the beach (where the high tide stops), and can be identified by its accumulation of debris. Both of these areas will be full of a variety of shells and creatures that were washed up at some point. The second thing to consider is the tide. Beaches are a dynamic environment and are changed easily by wind and water. Low tide is the best time to look for shells because there will be more beach exposed to explore.

Delaware Bay beaches are dynamic places with incoming and outgoing tides, migratory species, and a variety of plant and animal life. As you explore the shoreline, look for clues to identify some of the species that may be living along the beach or in the water. You may find shells, living or dead organisms, plant material, etc. It's all part of the bay ecosystem and an important part of Delaware's coastal environment.

**Use the photos on the back of this page to help identify some common things you may find on Delaware Bay beaches. For any questions about items you find or about the Delaware Bay, visit the DuPont Nature Center or call 302-422-1329.**

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**Knobbed Whelk**

- Shell has spikey knobs on the spiral (channeled whelk has a smooth spiral)
- Harvested for their meat

**Channeled Whelk**

- Shell has a smooth spiral (knobbed whelk has spikey knobs on the spiral)
- Delaware's state shell
- Harvested for their meat

**Knobbed Whelk Egg Case**

- Long strand of disk like-capsules
- Up to 100 eggs within each capsule
- More commonly found than channeled whelk egg cases

**Atlantic Slipper Snail**

- Has a pocket that houses most of the snail
- All slipper snails start as males and eventually become females

**Eastern Oyster**

- Bivalve
- Cleans bay water as they take in food
- One adult oyster can filter up to 50 gallons of water per day

**Channeled Whelk Egg Case**

- Has pinched edges
- Similar to the knobbed whelk egg case
- Both types produce "mini whelks" that grow over time

**Horseshoe Crab**

- The horseshoe crab is more closely related to spiders, ticks, and scorpions than crabs
- You may also find molts or pieces of horseshoe crab shells on the beach


**Blue Crab**

- Will scavenge for its food
- Their scientific name, *Callinectes sapidus*, means "beautiful swimmer"
- Will molt their shell as they grow


**Skate Egg Case**

- Skates are similar to rays in appearance, but skates lay eggs while rays give live birth.
- The egg case is also known as a "mermaid's purse"

**Moon Snail**

- Drills holes into the shells of its prey to gain access
- Spends most of its time in the sand searching for its prey

**Stout Razor Clam**

- Bivalve
- Unable to close its shell completely
- Live in mucous-lined tunnels up to 18 inches below the surface

**Atlantic Bay Scallop**

- Most bivalves burrow in sand or attach to rocks, but scallops live freely on the bottom of the bay
- Can propel backwards away from danger by squirting water

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